

REMARKS

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding Office action is respectfully requested.

Claims 1 and 20 are currently amended. Originally filed claims 2-10, 12 and 13 remain in the application. Claims 14-19 have been previously canceled. Claims 21-30 have been previously presented.

1. Rejections under 35 U.S.C. § 103

1.1. Rejections of claims 1-4, 7-8, 10 and 13

The Examiner has rejected these claims under 35 U.S.C. § 103(a) as being unpatentable over Fleming, Jr. et al. (United States Patent No. 4,011,006) in view of Gouskov et al. (United States Patent No. 6,253,580).

The Examiner asserted that

Fleming discloses a method of making glass suitable for incorporation in devices such as lenses and optical transmission lines (Col. 1, lines 10-13). Fleming's method, as best shown in Figure 3, comprises passing silica powder into a plasma to thus produce and deposit silica particles onto a rotating horizontal depositing surface. Fleming is silent depositing and consolidating the particles at the same time. However, Gouskov teaches that depositing and consolidating the silica into one single step in chapter than a multi-stage process that requires a separate deposition and consolidation steps (Col. 3 lines 15-17 and Col. 6, lines 61-65). Hence, at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have deposited and consolidated the particles of Fleming at the same time as taught by Gouskov because it's less expensive than a multi-stage process that requires separate deposition and consolidation steps.

Claim 1 has been further amended to include the limitations that the silica particles are directed downwardly and deposited on a substrate on a rotating table, as illustrated in FIG. 3 and described in paragraph [0022] in the specification.

Applicant submits that Fleming, Jr. et al. and Gouskov et al., in combination, do not establish a prima facie obviousness case for claim 1, as amended herein.

With regard to the Examiner's duty of establishing a prima facie obviousness case in an Office Action, the MPEP provides,

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

MPEP, 2142, Eighth Edition.

Fleming, Jr. et al. and Gouskov et al. are not concerned with fused silica materials for use in photolithography at shorter than 193 nm. Rather, both are concerned with applications such as optical fibers.

Fleming, Jr. et al. and Gouskov et al., in combination, do not teach or suggest directing the silica particles downwardly and depositing the silica particles on a substrate on a rotating table. Fleming, Jr. et al. and Gouskov et al. disclose depositing silica particles onto a rotating cane. These methods can be used to manufacture glass preforms only with limited size. Indeed, since the surfaces on which the silica particles are deposited as taught in these two references are not planar surfaces, but are curved surfaces (cylindrical, for example), they cannot be regarded as horizontal.

Therefore, it is clear that the combination of Fleming, Jr. et al. and Gouskov et al. does not establish a prima facie case of obviousness for claim 1, as amended herein.

The present invention, as claimed in claim 1, as amended, by depositing the particles and consolidating them on the surface of a substrate placed on a rotating table, silica glass with large diameter can be produced to fulfill the use in applications where large blank size is required.

Other claims, namely, claims 2-4, 7-8, 10 and 13 are all dependent from claim 1, as amended. Therefore, for the same reason, they are not obvious over Fleming, Jr. et al. and Gouskov et al. in combination.

1.2. Rejections of claims 20-30

The Examiner has rejected claims 20-30 under 35 U.S.C. § 103(a) as being unpatentable over Fleming, Jr. et al. in view of Gouskov et al. and further in view of Preistley et al. (United States Patent Application Serial No. 2002/0090518A1) and/or alternatively in view of Brown (United States Patent No. 6,541,168). The Examiner asserted that

Fleming discloses a method of making glass suitable for incorporation in devices such as lenses and optical transmission lines (Col. 1, lines 10-13). Fleming's method, as best shown in Figure 3, comprises passing silica powder into a plasma to thus produce and deposit silica particles onto a rotating horizontal depositing surface. Fleming is silent depositing and consolidating the particles at

the same time. However, Gouskov teaches that depositing and consolidating the silica into one single step in chapter than a multi-stage process that requires a separate deposition and consolidation steps (Col. 3 lines 15-17 and Col. 6, lines 61-65). Hence, at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have deposited and consolidated the particles of Fleming at the same time as taught by Gouskov because it's less expensive than a multi-stage process that requires separate deposition and consolidation steps.

Additionally, in view of Fleming, which teaches that the disclosed method can be used to make glass for incorporation within devices, it would have thus been obvious to a person of ordinary skill in the art, at the time the invention was made, to have used Fleming's silica glass as an optical device such as a photomask. The forming of photomasks requires cutting the glass from the preform into blanks and finishing them as taught by Brown and/or alternatively by Priestley et al. (See Brown Figure 11 and Col. 11 lines 46ff and/or Priestley et al. figure 13 and paragraph 51). Hence at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have processed the resulting glass preform derived from the teachings of Fleming and Gouskov as taught by Brown and/or alternatively by Priestley et al. in order to provide a photomask substrate if desired.

Applicant submits that claim 20, an independent claim, has been amended to include the limitations that the silica particles are directed downwardly and deposited on a substrate on a rotating table, as illustrated in FIG. 3 and described in paragraph [0022] in the specification.

Applicant submits that Fleming, Jr. et al. and Gouskov et al., in combination, do not establish a prima facie obviousness case for claim 1, as amended herein.

Fleming, Jr. et al. and Gouskov et al. are not concerned with fused silica materials for use in photolithography at shorter than 193 nm. Rather, both are concerned with applications such as optical fibers.

Fleming, Jr. et al. and Gouskov et al., in combination, do not teach or suggest directing the silica particles downwardly and depositing the silica particles on a substrate on a rotating table. Fleming, Jr. et al. and Gouskov et al. disclose depositing silica particles onto a rotating cane. These methods can be used to manufacture glass preform only with limited size. Indeed, since the surfaces on which the silica particles are deposited as taught in these two references are not planar surfaces, but are curved surfaces (cylindrical, for example), they cannot be regarded as horizontal.

Therefore, it is clear that the combination of Fleming, Jr. et al. and Gouskov et al. does not establish a prima facie case of obviousness for claim 20, as amended herein.

The present invention, as claimed in claim 20, as amended, by depositing the particles and consolidating them onto the surface of a substrate placed on a rotating table, silica glass with large diameter can be produced to fulfill the use in applications where large blank size is required.

Other claims, namely, claims 21-30 are all dependent from claim 20, as amended. Therefore, for the same reason, they are not obvious over Fleming, Jr. et al. and Gouskov et al. in combination.

2. Conclusion

In view of the above amendments, remarks and papers of record in the present application, Applicant believes that the pending claims in the present application are in allowable form. Applicant respectfully requests the Examiner to promptly issue a Notice of Allowance thereon.

Applicant believes that no extension of time is required to make this reply to the outstanding Office action timely. Should Applicant be in error, Applicant respectfully requests the Office to grant the additional time necessary to render this reply timely under 37 C.F.R. 1.136 (a). Applicant, through counsel, hereby authorizes the Office to charge any required fee for the time extension to Deposit Account No. 03-3325.

The undersigned attorney is granted limited recognition by the Office of Discipline and Enrollment of the USPTO to practice before the USPTO in capacity as an employee of Corning Incorporated. A copy of the document granting such limited recognition either has been previously submitted or is submitted herewith for the record.

Please direct any questions or comments to the undersigned at (607) 248-1253.

Respectfully submitted,



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